Contents of Volume 332B

Number 1

CONCISE ESTIMATE OF ALLOWABLE PERTURBATIONS FOR SCHUR PROPERTY OF REAL POLYNOMIALS
T. Mori and H. Kokame 1

OPTIMAL OPEN/CLOSED-LOOP CONTROL FOR SYSTEMS WITH DISTRIBUTED PARAMETER
I. S. Sadek and O. Yürekli 5

SINGULARLY PERTURBED FORMULATION: EXPLICIT MODELING OF MULTIBODY SYSTEMS
A. A. Zeid and J. L. Overholt 21

ON THE COMPOSITE AND REDUCED OBSERVER-BASED CONTROL OF DISCRETE TWO-TIME-SCALE SYSTEMS
J.-H. Li and T.-H. S. Li 47

AN EXTENSION OF THE GENERALIZED GAUSSIAN DISTRIBUTION TO INCLUDE ASYMMETRY
A. K. Nandi and D. Mämpel 67

BOUNDS FOR OPTIMAL FLOW CONTROL WINDOW SIZE DESIGN WITH APPLICATION TO HIGH-SPEED NETWORKS
R. M. Bournas 77

A LOCAL THEORY OF INPUT/OUTPUT STABILITY OF DYNAMICAL SYSTEMS
H. Marquez 91

A RICCATI EQUATION APPROACH TO THE ROBUST MEMORYLESS STABILIZATION OF DISCRETE TIME-DELAY SYSTEMS
C.-H. Lee, T.-H. S. Li and F.-C. Kung 107

THE FRANKLIN INSTITUTE AWARDS PROGRAM AND CONVOCATION: AN OFFICIAL HISTORICAL RECORD OF THE 1994 AWARDS CEREMONIES
L. E. Tise and W. Ellis 115

Number 2

OPTIMAL SEQUENCE ESTIMATION FOR CONVOLUTIONALLY CODED SIGNALS WITH BINARY DIGITAL MODULATION IN ISI CHANNELS
Fuqin Xiong 125

DISCONTINUITIES IN A BOND GRAPH FRAMEWORK
W. Borutzky 141

EFFICIENT EXEMPLARS FOR CLASSIFIER DESIGN
W. A. Porter and Wei Liu 155

DIRECTION-OF-ARRIVAL ESTIMATION IN THE PRESENCE OF SENSOR MODEL ERRORS
Y. Yardimci and J. A. Cadzow 173

FEEDBACK STABILIZATION AND STABILITY DOMAIN ESTIMATION OF NONLINEAR SYSTEMS
E. Benhadj Braïek 183

THE DESIGN OF DWELL-RISE-DWELL CAMS WITH REDUCED SENSITIVITY TO PARAMETER VARIATION
B. C. Fabien 195

A LASER SYSTEM FOR POLLUTION DETECTION
G. C. Bakos and N. F. Tsagas 211

CROSS RATIO IN SPHERE GEOMETRY AND ITS APPLICATION TO MECHANISM DESIGN
Deng-Maw Lu, Chi-Feng Chang and Wen-Miin Hwang 219

A GENERALIZED SOLUTION EXPRESSION FOR LINEAR HOMOGENEOUS CONSTANT-COEFFICIENT DIFFERENCE EQUATIONS
T. B. Boykin and C. D. Johnson 227

THE DYNAMICS OF MULTITASKING-MULTIPROCESSING COMPUTING
J. M. Paul and M. H. Mickle 237

Number 3

ARTIFICIAL NEURAL NETWORKS FOR STRUCTURAL ANALYSIS
R. A. Perez and Kang-Ning Lou 247

STABILIZATION OF A CLASS OF NONLINEAR CONTROL SYSTEMS VIA DYNAMIC OUTPUT FEEDBACK
Feng-Hsiag Hsiao, Shing-Tai Pan and Shiow-Liann Fann 263

APPLICATION OF A TWO-STEP COMPENSATING SCHEME TO A CLASS OF NONLINEAR CONTROL SYSTEMS
Feng-Hsiag Hsiao, Shing-Tai Pan and Shiow-Liann Fann 275

PHYSICAL MODEL-BASED CONTROL: A BOND GRAPH APPROACH
P. J. Gawthrop 285

ESTIMATING THE MANIFOLD PARAMETERS OF ONE-DIMENSIONAL ARRAYS OF SENSORS
I. Dacos and A. Manikas 307

A NEW IDENTITY INVOLVING POSITIVE ROOTS OF BESSEL FUNCTIONS OF THE FIRST KIND
X. A. Lin and O. P. Agrawal 333

FIXED POINT ROUNDOFF NOISE IN FREQUENCY SAMPLING FILTERS
P. A. Stubberud 337

Number 4

LYAPUNOV-BASED QUANTITATIVE ANALYSIS OF ROBUST STABILITY
Horng-Giou Chen and Kuang-Wei Han 361

AN INVESTIGATION OF A JET IMPINGING ONTO A SLOTTED SURFACE
Cherng-Yuan Lin and J. L. Sproston 377

MODEL REDUCTION BY REPRODUCING THE ASYMPTOTIC RESPONSE
Wiesław Krajewski, Antonio Lepschy and Umberto Viaro 393

COMPARISON OF ADAPTIVE CONTROLLERS APPLIED TO THE ROBOTIC MANIPULATORS
Hashem Rafizadeh and Ronald Perez 403

TIME-VARYING PASCAL SYSTEMS
Z. Trzaska 419

DIGITAL REDESIGN OF A CONTINUOUS-TIME CONTROLLER USING THE PADE AND INVERSE-PADE APPROXIMATION METHOD
Leang S. Shieh, Ramesh K. Kasavaraju and Jason S. H. Tsai 433

THE MODELLING OF VIBRATING BAR SYSTEMS WITH NONLINEAR CHANGEABLE SECTIONS OF ROBOTS BY MEANS OF HYPERGRAPHS AND STRUCTURAL NUMBERS
Andrzej Buchacz and Józef Wojnarowski 443

ON IMPROVEMENT OF THE INTEGRAL OPERATIONAL MATRIX IN BLOCK PULSE FUNCTION ANALYSIS
Anish Deb, G. Sarkar, Sunit K. Sen and Manabrata Bhattacharjee 469

EXPONENTIAL STABILITY OF DISCRETE TIME UNCERTAIN SYSTEMS WITH TIME-VARYING DELAY
Tsung-Lieh Hsien and Chien-Hua Lee 479

ROBUST STABILITY OF CONVEX AND COMPACT SETS OF COMPLEX POLYNOMIALS
Y. Q. Shi and H. Zhang 491

Number 5

Part I: Special Issue on Antennas and Microwaves
EDITORIAL
Nader Engheta 501

THE RADAR ANTENNA—CIRCA 1995
Merrill Skolnik 503

MODELING AND SIMULATION OF COMMUNICATION SYSTEMS: AN OVERVIEW
Michel C. Jeruchim 521

TECHNIQUES TO IMPROVE THE CLEAN DECONVOLUTION ALGORITHM
Avraham Freedman, Ranjan Bose and Bernard D. Steinberg 535

NONLINEAR CIRCUIT MODEL OF LASER DIODES FOR LARGE-SIGNAL MICROWAVE PHOTONIC CAD
Joong-Hee Lee, Xiang-Dong Zhang, Afshin S. Daryoush, Tsang-Der Ni and Arthur Paolella 555

A TRIANGULAR MESH RANDOM WALK FOR DIRICHLET PROBLEMS
Keming Gu and Matthew N. O. Sadiku 569

RADIATION OF AN ELECTRIC POINT-SOURCE IN A HOMOGENEOUS OMEGA MEDIUM
L. Vegni and A. Toscano 579

Part II: General Papers

ON THE DECENTRALIZED STABILIZATION OF INTERCONNECTED VARIABLE STRUCTURE SYSTEMS USING OUTPUT FEEDBACK
J. L. Lee 595

STABILIZATION OF NONLINEAR SINGULARLY PERTURBED SYSTEMS USING MULTILAYERED NEURAL NETWORKS
Jui-Hong Horng, Teh-Lu Liao and Jer-Guang Hsieh 607

GLOBAL EXPONENTIAL STABILIZATION FOR A CLASS OF UNCERTAIN NONLINEAR SYSTEMS WITH TIME-VARYING DELAY ARGUMENTS AND INPUT DEADZONE NONLINEARITIES
Yeong-Jeu Sun and Jer-Guang Hsieh 619

DERIVATION OF A MAXIMUM PRINCIPLE FOR DESCRIPTOR SYSTEMS WITHOUT AN ADMISSIBLE INITIAL CONDITION ASSUMPTION
Hua Xu and Koichi Mizukami 633

Number 6

AN ALGORITHMIC APPROACH TO LOOP SHAPING WITH APPLICATIONS TO SELF-TUNING CONTROL SYSTEMS
Zhiqiang Gao 643

ON BRICARD'S DOUBLY COLLAPSIBLE OCTAHEDRON AND ITS PLANAR, SPHERICAL AND SKEW COUNTERPARTS
J. Eddie Baker 657

ADAPTIVE DECOUPLING CONTROL OF LINEAR SYSTEMS WITHOUT A PERSISTENT EXCITATION REQUIREMENT
K. G. Arvanitis 681

TRUNCATED SEQUENTIAL CFAR DETECTORS USING WEIGHTED SIGN AND WEIGHTED CONDITIONAL SIGN TESTS
Asis Nasipuri and Sawasd Tantaratana 717

NONLINEAR OUTPUT TRACKING VIA DYNAMIC SLIDING MANIFOLDS
Yuri B. Shtessel 735

AN ANALYSIS OF PHIPPS'S POTENTIAL ENERGY
J. J. Caluzi and A. K. T. Assis 747

A NOTE ON BIBO STABILITY OF BILINEAR SYSTEMS
Stelios Kotsios 755

A PRACTICAL VARIATIONAL APPROACH TO STOCHASTIC OPTIMAL CONTROL VIA STATE MOMENT EQUATIONS
Guy Jumarie 761

A NOTE ON THE STABILITY OF UNCERTAIN TIME-LAG SYSTEMS
Yeong-Jeu Sun and Jer-Guang Hsieh 773